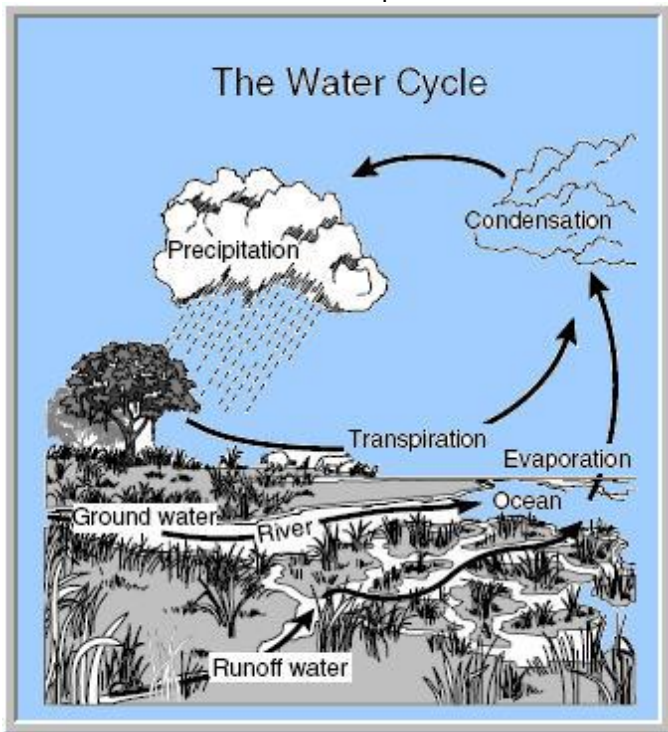


BIO SOL Review 9 - Homeostasis - Water properties (14)

1. (2006-33) Some insects can stand on the surface of water because water —
 - a. has a high specific heat
 - b. is a good evaporative coolant
 - c. is cohesive and adhesive
 - d. has a high boiling point

2. (2006-47) In the human body, muscle cells have an increased need for energy during exercise. To help supply this energy, the body will immediately increase:
 - a. activity in the nervous system to stimulate intake of carbon dioxide
 - b. the breathing rate to supply more oxygen to cells for the release of energy
 - c. the need for waste products to be retained
 - d. food intake to increase the substances available for respiration



3. (2001-43) According to this simplified water cycle, the process of transpiration is the process that —
 - a. releases water vapor from plants
 - b. increases the rate of the water cycle
 - c. speeds the evaporation of water
 - d. causes photosynthesis in plants

4. (2006-46) Some peeled pieces of apple were placed in distilled water and some in very salty water. The cells in the apple pieces will —
 - a. lose water in both solutions
 - b. gain water in the distilled water and lose water in the salty water
 - c. gain water in both solutions

- d. lose water in the distilled water and gain water in the salty water

5. (2003-11) Which of the following molecules is most abundant in the cells of the human body?
 - a. Nucleotides
 - b. Water
 - c. Lipids
 - d. Amino acids

6. (2006-34) If transpiration stopped completely, how would a plant's homeostasis first be affected?
 - a. Water molecules would not be released from leaves.
 - b. Carbohydrates would no longer be formed.
 - c. Fewer sugars stored in roots and stems would diffuse into the soil.
 - d. More carbon dioxide molecules would be taken in by leaves.

7. (2003-4) Unlike other animals, mammals can perspire. The main benefit of perspiring is that it —
 - a. removes dirt from the surface of the skin
 - b. cools the skin with evaporation
 - c. relaxes the muscles
 - d. removes extra water from the cells

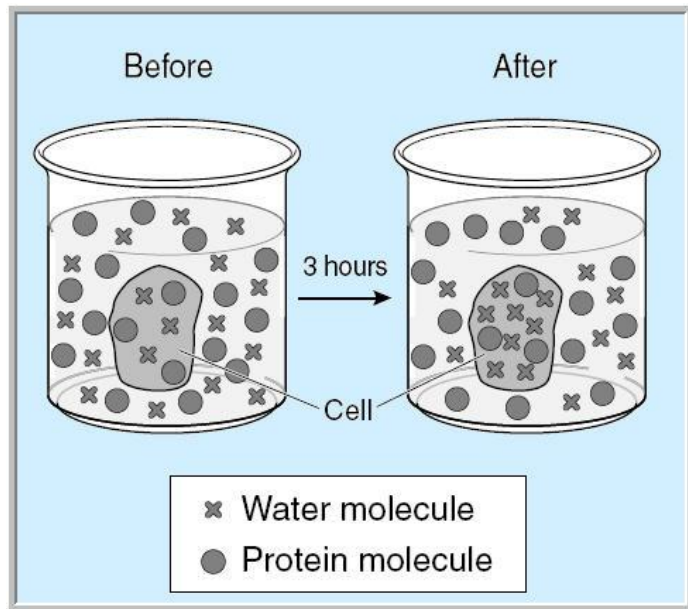
8. (2004-28) The unique properties of water enable life to exist on Earth. Which of these is a property of pure water?
 - a. It dissolves many substances.
 - b. Its solid form is more dense than its liquid.
 - c. It is slightly more acidic than air.
 - d. It has a low heat absorption capacity.

9. (2005-20) Ice floats on a lake. This characteristic of water is responsible for —
 - a. suffocation of aquatic organisms
 - b. mixing a lake's thermal layers
 - c. preventing a lake from freezing solid
 - d. altering migration patterns of fish

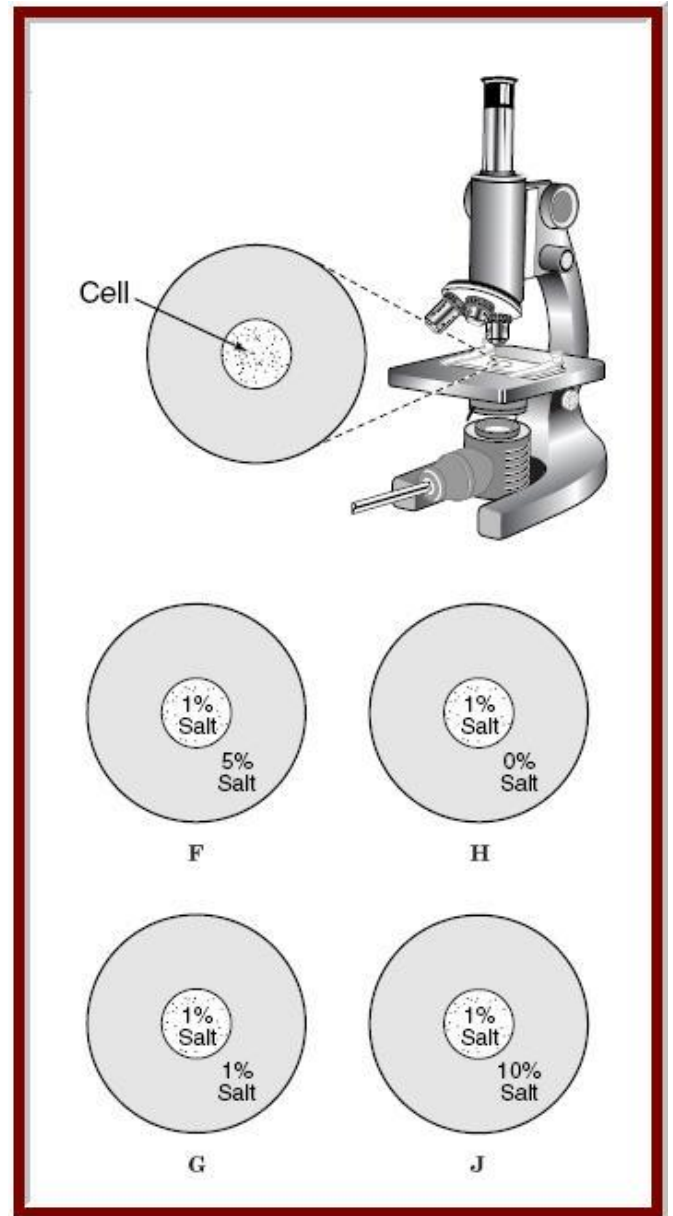
10. (2002-26) Bacteria are tremendously successful unicellular organisms, yet all large organisms are multicellular. Unicellular organisms cannot grow very large because the —
 - a. diffusion of nutrients into the cell's interior would be too slow
 - b. locomotion of the organisms would be too slow
 - c. respiratory rate would be too high
 - d. energy expenditures would be too great

11. (2005-36) When there is a lower concentration of water outside of a plant cell rather than inside a plant cell, the plant will tend to —
 - a. grow toward the sun
 - b. lose water and wilt
 - c. gain water and become rigid
 - d. increase its rate of photosynthesis

12. (2002-21) The concentration of glucose must be maintained within a fairly narrow range in most vertebrates. This statement is an example of —
- homeostasis
 - fermentation
 - excretion
 - glycolysis
13. (2001-23) A microorganism which releases water into its environment to regulate its salinity during osmosis is undergoing a process that is similar to a human being who releases moisture on a hot day. This process that helps keep both the microorganism and the human body fluids in balance is known as —
- heredity
 - homeostasis
 - mutation
 - cell division



14. (2001-38) The above diagram shows the process of osmosis. Only the water molecules could enter the cell because water molecules —
- have more energy than the protein molecules
 - are smaller than the protein molecules
 - contain more hydrogen atoms than the protein molecules
 - are more numerous than the protein molecules



15. (2002-18) A student was studying the responses of cells to solutions of varying salt concentrations. Which solution below would cause no change in cell size?
- F
 - G
 - H
 - J